Oracle Installation Guide

Version 24
For Oracle 10gR2 and Oracle 11gR2

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Introduction

These instructions are used by students enrolled in the Master of Science in Computer Information Systems and other Computer Science Department programs in both on-campus and online programs. In some places these instructions say that you should contact your instructor. Online students should normally contact their facilitator first.

The document begins with a discussion of Oracle, connecting to the Oracle web site, creating an Oracle Technology Network account, downloading either an Oracle 10g Release 2 or Oracle 11g Release 2 zip file, unzipping it and installing Oracle. We continually update this document; please let us know of problems you encounter or questions not answered.

The examples in the main document are for the Microsoft Windows family, including Windows 2000, XP, Vista, and System 7. If you are installing on an operating system other than the Windows family, such as Linux or Solaris, then follow these instructions to join OTN, except download the version of Oracle for your platform rather than the Windows version. The *Quick Installation Guide* and the full *Installation Guide* for your operating system can be found in the *Install* directory created when you unzip the file you will download as part of these instructions.

These setup instructions are for Oracle 10g Release 2 and for Oracle 11g Release 2. The installation instructions are very similar, and the screen shots in these instructions are from installations of both Oracle 10gR2 and Oracle 11gR2. Oracle has maintained upward compatibility for SQL between Oracle versions for many years. If you cannot install Oracle 10g or 11g on your own machine, and you have ready access to an Oracle installation you may be able to use it. All of the exercises in MET CS579 and CS669 can be completed using Oracle 8i or later. Some of the exercises in MET CS779 require Oracle 9i or later. CS 779 students may wish to use a recent version of Oracle, such as 11gR2 if you choose to do a term project using Oracle Grid or another feature only available in the latest releases. Students in CS 674 Database Security should normally install the Enterprise edition, because some exercises in CS 674 use the Enterprise Manager software that comes with the Enterprise edition.

If you have difficulty installing Oracle we have a virtualization of a Windows XP machine with Oracle already installed. Virtualization is technology that allows us to efficiently run a virtual machine on the machine that you already have. We use Microsoft's virtualization software, which is free of charge to students. The virtual image is too large for a CDROM, so you will need to either download it from our web site, or we can overnight you a DVD containing the image. We recommend that you have one gigabyte or more of physical RAM to run the Oracle virtualization.

Also included are instructions for setting up Oracle Express Edition, a smaller edition of the full product. Although it has limitations with regard to the amount of memory,

size, and number of tables allowed, it is quite usable for our classes, and it introduces a much lighter load on your computer. We recommend that you install Oracle 10g Express Edition for classes except CS674 Database Security, which makes use of the Enterprise Manager. You should also install the Enterprise Edition if you plan to do a term project with large databases, Oracle Grid, Enterprise Manager or other features that are not in the Express Edition.

Oracle is continually updating Oracle.com, so the screens that you see on Oracle.com will probably be a little different than what is shown in this document. If you can't determine how to proceed because what you see is too different, or if something goes wrong ask your instructor what to do. Good luck, and have fun!

Oracle Overview

About Oracle

We will make extensive use of Oracle in this class. We have chosen Oracle instead of IBM DB2, Microsoft SQL Server, MySQL, or one of the numerous other commercial or open source databases because for three decades Oracle has led the industry in the development and delivery of advanced database technology and standards. Oracle has essentially all of the advanced features in any relational or object-relational database management system. Because of this, many of the new ANSI/ISO SQL standards are based on Oracle, so when you learn Oracle you are mainly close to the portable standards. Unlike MSSQL Server, Oracle runs on all common platforms from huge symmetric multiprocessors to ordinary PCs. Oracle is also very scalable, and it supports both clustering and grid computing to surpass the performance and reliability of any single platform. Oracle is the standard by which other database management systems are measured, and when you learn to use Oracle your skills will transition well to other database management systems.

Oracle runs on ordinary machines. Oracle runs on the largest multiprocessors, but Oracle also runs very well on ordinary PCs and recent Macintoshes. PCs are the most common Oracle hardware platform, and there are Oracle versions for many PC operating systems, including the Windows family and Linux.

The following instructions are for the default configuration, the easiest of the Oracle installations. Oracle is very flexible and can be configured to use less or more in the way of machine resources. There are suggestions in the instructions below for minimizing hard disk usage. The easiest way to minimizing the use of resources on your machine is to download and install Oracle Express, which requires about half the RAM of the other Oracle editions. Oracle 10gR2 Express Edition is available, but Oracle 11gR2 Express edition may not yet be available. If you want to run Oracle on a platform other than Windows, please see the platform notes at the end of the document or contact your instructor for assistance.

Hardware Requirements

The following information is based on best practices and the hardware requirements specified by Oracle's installation documentation. If you are installing any release and edition of Oracle 11g, Oracle recommends that your system have at least 1GB RAM and roughly 5GB of free disk space. If you are installing any release of Oracle 10g, Oracle recommends that your system have at least 256MB RAM and roughly 3GB of free disk space, though 512MB RAM is recommended. If you choose to run the 64-bit version of Oracle 10g, 512MB RAM is the minimum and 2GB RAM is recommended.

If these hardware requirements are a problem for you please contact your instructor for assistance.

Oracle Editions

Oracle can be installed in one of five editions -- Enterprise, Standard Edition, Standard Edition One, Personal Edition, and Express Edition. All editions come with the core relational DBMS along with full SQL support. The main difference in functionality between the editions is how many advanced features are supported, including features pertaining to high availability, scalability, performance, manageability, data warehousing, and business intelligence. Licensing is different for each edition, which is important when the DBMS is installed in a production environment.

Unless you need the advanced features provided by the Enterprise or Standard Editions, it is recommended that you install Standard Edition One or Express Edition.

Common Platforms

Oracle runs on all common platforms, including the Windows family, the latest Macintosh operating systems, several Linux variants, and several Unix variants. Oracle supports the features that we use in our courses on all platforms, and it doesn't matter what platform your Oracle runs on. You will connect to Oracle using a SQL client, for example Oracle SQL Developer, TOAD, or SQL*Plus. Oracle can be on the same machine as the client or on another machine on the same LAN or anywhere on the Internet.

Platform Independence

Oracle behaves the same regardless of the platform except for database size limitations and performance. Your exercises will behave the same way across all Oracle platforms.

Preparations and Setup

You can obtain a copy of Oracle by downloading Oracle from Oracle.com or by obtaining an Oracle 10GR2 or 11gR2 CDROM from the Computer Science Department. If you experience downloading difficulties, please contact your facilitator, lead facilitator, or course instructor. Most people with broadband should be able to complete the download and install the program with minimal difficulty. If you are installing from a CD-ROM, you will not need the instructions in the following Parts 2 through 4, and you can skip directly to Part 5.

Setting up Oracle is not like setting up an ordinary application. Oracle and other DBMS are more deeply integrated with the operating system than ordinary applications.

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